

Amendments to the Claims:

Please cancel Claim 4 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1 through 3 and 9 to read, as follows.

1. (Currently Amended) An image forming apparatus comprising:
a rotatable latent image bearing member for bearing a latent image;
charging means contacting with said latent image bearing member and being provided with a voltage applied thereto for charging said latent image bearing member;
cleaning means contacting with said latent image bearing member and being adapted to clean said latent image bearing member; and
alternate [[AC]] current detecting means capable, when a first AC voltage ~~capable of having plural different peak-to-peak voltages~~ is applied to said charging means, of detecting an alternate [[AC]] current flowing between said charging means and said latent image bearing member,

wherein a peak-to-peak voltage of a charging AC voltage, for charging an area constituting an image forming area on said latent image bearing member, ~~voltage~~ applied to said charging means ~~for charging an area constituting an image forming area on said latent image bearing member~~ is selected based on an alternate [[AC]] current detected by said alternate [[AC]] current detecting means, and

wherein when a print signal is supplied to said image forming apparatus, the first AC voltage, a second AC voltage and the charging AC voltage are applied to said charging means in order, the second AC voltage having a peak-to-peak voltage higher than that of

~~the first voltage said charging means is provided with, after an application of the first AC voltage and before an application of the charging AC voltage, a second AC voltage having a peak-to-peak voltage larger than the peak-to-peak voltage of the first AC voltage.~~

2. (Currently Amended) An image forming apparatus according to claim 1, wherein the charging ~~AC peak-to-peak~~ voltage is selected as a voltage which has a peak-to-peak voltage at a predetermined alternate current or more by comparing when an alternate the AC current detected when the first AC voltage is applied to said charging means to the reaches a predetermined alternate [[AC]] current.

3. (Currently Amended) An image forming apparatus according to claim 2, wherein, the first AC voltage applied to the charging member in order to select a next peak-to-peak voltage of the charging AC voltage after a charging peak-to-peak voltage is an AC voltage having a peak-to-peak voltage lower by a step than a peak-to-peak voltage of the charging AC voltage selected in a previous time, selected, a next charging peak-to-peak voltage is selected before the AC current reaches the predetermined AC current:

wherein in a case where an alternate current detected when the first AC voltage is applied is less than the predetermined alternate current, the peak-to-peak voltage of the charging AC voltage selected in the previous time is selected as a next peak-to-peak voltage of the charging AC voltage, and

wherein in a case where an alternate current detected when the first AC voltage is applied is equal to or more than the predetermined alternate current, a first AC voltage having a peak-to-peak voltage lower by a step than the peak-to-peak voltage of the

charging AC voltage selected in the previous time is selected as a next peak-to-peak voltage of the charging AC voltage.

4. (Canceled)

5. (Previously Presented) An image forming apparatus according to claim 1, wherein the second AC voltage is applied when said charging means is brought into contact with an area constituting a non-image forming area of said latent image bearing member.

6. (Previously Presented) An image forming apparatus according to claim 1, wherein a peak-to-peak voltage of the second AC voltage is a maximum peak-to-peak voltage among the peak-to-peak voltages of the AC voltages applied to said charging means.

7. (Previously Presented) An image forming apparatus according to claim 5, further comprising:

transfer means which applies a transfer voltage for transferring, to a transfer medium, a developer image developed with a developer in the image forming area,

wherein a DC voltage of a polarity opposite to a normal charging polarity of said latent image bearing member is applied to said transfer means, when an area of said latent image bearing member, charged by the application of the second AC voltage to said charging means, is present in a portion in contact with said transfer means.

8. (Previously Presented) An image forming apparatus according to claim 7, wherein the transfer voltage is determined based on a current flowing between said latent image bearing member and said transfer means when the DC voltage is applied to said transfer means.

9. (Currently Amended) An image forming apparatus according to claim 1, wherein, when the second AC voltage is applied to said charging means, a discharged AC charge amount δa per unit area satisfies the following condition:

$$\delta a \geq 2600 [\mu A \times \text{sec}/m^2] \quad \delta a \geq 2600 [mA \times \text{sec}/m^2]$$

and δa is defined by:

$$\delta a [\mu A \times \text{sec}/m^2] = ((I_{ac} - \alpha \times V_{pp})/L)/V_{ps} \quad \delta a [mA \times \text{sec}/m^2] = ((I_{ac} - \alpha \times V_{pp})/L)/V_{ps}$$

in which:

V_{ps} [m/sec] is a moving speed of said latent image bearing member;

V_{pp} [V] is a peak-to-peak voltage of the second AC voltage;

I_{ac} [mA] is the AC current flowing between said charging means and said latent image bearing member;

L [m] is a longitudinal charging width of said charging means;

α represents AC voltage-current characteristics when said latent image bearing member and said charging means are in mutual contact and is a ratio I_{ac}/V_{pp} of an AC current I_{ac} to a peak-to-peak voltage V_{pp} in a region not exceeding twice a charging starting voltage V_{th} .

10. (Previously Presented) An image forming apparatus according to claim 9, wherein, when the charging AC voltage is applied, a discharged AC charge amount δb per unit area between said charging means and said latent image bearing means satisfies the following condition:

$$\delta b \geq 1200 [\text{mA} \times \text{sec}/\text{m}^2] \text{ and}$$

$$\delta a > \delta b,$$

and δb is defined by:

$$\delta b [\mu\text{A} \times \text{sec}/\text{m}^2] = ((I_{ac}' - \alpha \times V_{pp}')/L')/V_{ps}'$$

in which:

V_{ps}' [m/sec] is a moving speed of said latent image bearing member;

V_{pp}' [V] is a peak-to-peak voltage of the charging AC voltage;

I_{ac}' [μA] is the AC current flowing between said charging means and said latent image bearing member;

L' [m] is a longitudinal charging width of said charging means;

α represents AC voltage-current characteristics when said latent image bearing member and said charging means are in mutual contact and is a ratio I_{ac}/V_{pp} of an AC current I_{ac} to a peak-to-peak voltage V_{pp} in a region not exceeding twice a charging starting voltage V_{th} .

11. (Previously Presented) An image forming apparatus according to claim 1, wherein the first AC voltage is applied to said charging means during a time equal to or longer than a time of one rotation of said latent image bearing member.

12. (Previously Presented) An image forming apparatus according to claim 1, wherein the second AC voltage is applied to said charging means during a time equal to or longer than a time of one rotation of said latent image bearing member.

Claims 13 through 17. (Canceled)

18. (Previously Presented) An image forming apparatus according to claim 5, wherein the area constituting the non-image forming area is an area of said latent image bearing member in an initial rotation step prior to an image formation.

19. (Previously Presented) An image forming apparatus according to claim 18, wherein, when a time of said initial rotation step varies, the time of application of the second AC voltage to said charging means varies but the time of application of the first AC voltage to said charging means does not vary.

20. (Previously Presented) An image forming apparatus according to claim 1, further comprising a power supply circuit, wherein said power supply circuit outputs an AC and DC superposed voltage provided to said charging means by single voltage-elevating means.